

# EB PROGRAMMES: SHAPING INSURANCE RISK

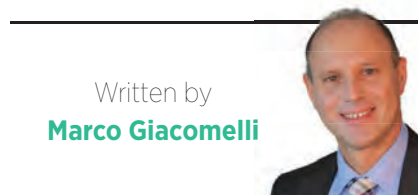
Marco Giacomelli of Generali speaks to *Captive Review* about risk management tools and strategies in today's landscape

The word 'risk' derives from the early Italian 'risicare', which means 'to dare' – a human trait that has propelled mighty failures as well as exceptional achievements in the history of mankind, from Icarus's fated flight to Armstrong's moon landing.

Our ongoing efforts at mastering risk are therefore remarkable, as a revolutionary idea which defines the boundary between modern times and the past: the considerable body of work around the concept of risk management addresses some fundamental, innate questions that arose long before the first captive was established, and long before our forefathers set the founding principles of insurance as we know it today.

To quote Peter L. Bernstein's bestseller *Against the gods – the remarkable story of risk*: "The essence in risk management lies in maximising the areas where we have some control over the outcome while minimising the areas where we have absolutely no control over the outcome and the linkage between effect and cause is hidden from us."

While the field of risk management as a whole is eminently complex and fascinating, the aim of this article is to merely provide a concise overview of certain risk management tools and strategies in the context of con-



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temporary captive fronting management for insured employee benefits programmes, and to provide a reference for captive owners, risk managers and their advisors on the role of global employee benefits networks in optimising a successful captive programme.

### Captives and employee benefits

A captive is an insurance or reinsurance company that is owned or controlled by a parent corporation.

This control can be exerted in a variety of ways, not only through direct ownership but also through other forms of business governance, such as utilising 'rented' captives administered by specialised providers, or

establishing special purpose insurance vehicles, often structured on a number of protected cells whose assets are segregated for the benefit of the captive's own policyholders as privileged creditors.

Typically, the captive's primary activity consists of insuring or reinsuring the risk exposures of the parent, the parent's affiliates, and/or other entities having an especially close business relationship to the parent (such as the parent's customers or vendors). Traditionally, captives were founded to insure industrial risks such as property & casualty, and certain corporate obligations such as employer's liability or workers' compensation.

Since the mid-1980s, captives have progressively embraced a wider range of coverages in their books, among which are insured employee benefits. More specifically, these risks are a sub-set of a comprehensive employee benefits package, as they are comprised of:

- Group life benefits and riders (such as accidental death and dismemberment and critical illness);
- Group disability benefits (either lump sum based, as in total and permanent disability, or annuity based, as in long term disability benefits);
- Group medical benefits (traditional

indemnity, fully insured comprehensive and supplementary health benefits, as well as medical stop loss programmes supplementary to a self-insured primary health plan);

- Group and personal accident benefits

Two significant attributes emerge from this list: first, the fact that pension schemes or, in general, savings schemes associated to a benefits package, are not included. This 'product gap' is now being addressed by certain market players, which are coming to terms with the peculiarities that pension liabilities will carry when reinsured by a captive, such as exposure to longevity risk, ALM challenges and an increased credit risk.

Furthermore, the mentioned benefit classes encompass both the life and non-life balance sheet allocation of said coverages, and this has an important mitigating effect on a captive's overall risk exposure.

Traditionally, the mechanics of a global programme designed for managing employee benefit risks through a captive reinsurer can be illustrated in Figure 1.

This diagram underlines the bottom up approach of a typical captive programme for employee benefits, which is based on a collection of locally insured, fully compliant insur-

ance contracts issued by a number of local insurers associated to a global network.

These contracts are reinsured by one or more designated network reinsurers or fronting entities, which in turn transfer the underlying insured risk to the captive, generally through a proportional form of reinsurance, and more frequently through a Quota Share portfolio treaty. The combined process of issuing local employee benefits contracts and transferring the corresponding portfolio of reinsured risks to a captive is also known as fronting.

Figure 1 also underlines the fundamental role played by global networks in facilitating the implementation and ongoing management of a successful captive programme, which will be further examined later.

The worldwide insured employee benefit market is highly specialised and concentrated, and it is currently represented by eight active networks. Each of them has evidently capitalised on its competitive advantages such as geographical scope, flexibility, aggressive pricing, service standards etc., and the market for employee benefits captive programmes is a much smaller sub-set of this environment, dominated by even fewer global players.

The reasons for this are many, but in our

context some of these can be seen as a systemic consequence: an intuitive way to describe employee benefits networks is to plot them on a correlation matrix based on two defining features:

- **Structure:** wholly owned vs "federative"
- **Business model:** reinsurance based vs profit sharing based

The matrix in Figure 2 indicates that there is a strong correlation between a network's structure and its underlying business model. Evidently, a network that owns the majority of its affiliated local insurance operations is more likely to be based on a reinsurance model to transfer risk from each affiliated local insurer to a central reinsurance vehicle.

This combination of attributes narrows the playing field among those networks which qualify as 'captive friendly', in the sense that if their structure is mainly proprietary, and their business is already based on transferring most or all locally insured risks via reinsurance into a central reinsurer, this model is effectively designed to be compatible with a typical fronting programme.

**Captives and enterprise risk management**

Generally speaking, captives are corporations with a very specific and focused risk profile,

 **FIGURE 1 | MECHANICS OF A GLOBAL PROGRAMME**

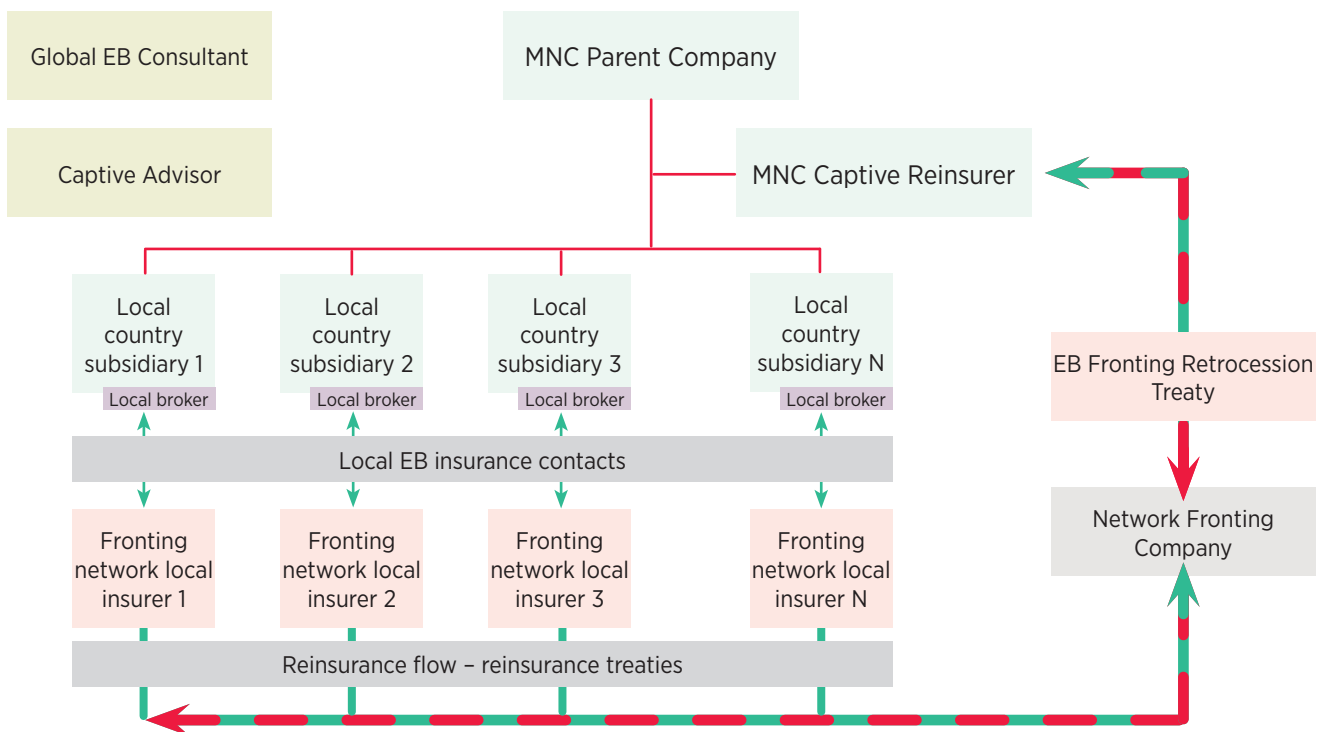
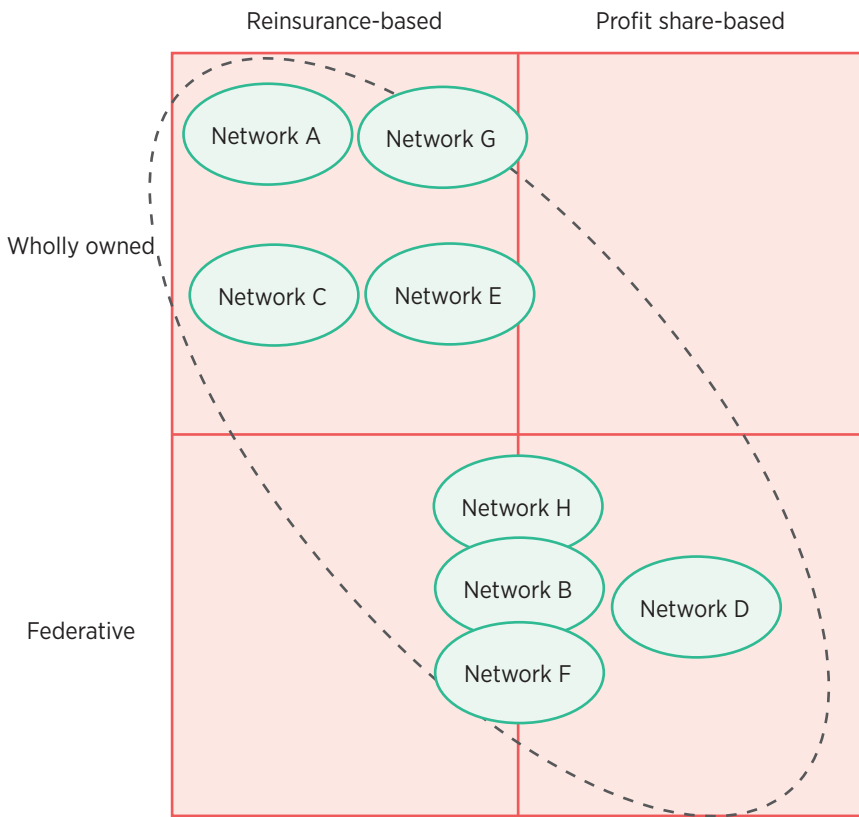


FIGURE 2 | CORRELATION MATRIX



when compared to a commercial corporation.

With some approximation, one might state that captives are therefore relatively immune to the top 10 risk categories which might affect a corporation:

- 1) Climate change
- 2) Fiscal crises
- 3) Economic disparity
- 4) Global governance failures
- 5) Extreme weather events
- 6) Energy price volatility
- 7) Geopolitical conflict
- 8) Corruption
- 9) Flooding
- 10) Water security

This list evidently does not exhaust the range of risks a captive faces, nor the need for implementing a comprehensive enterprise risk management (ERM) framework to support a captive's economic activity.

On the contrary, the concept of ERM has brought captives to the forefront of risk management practices, starting from an accurate inventory of all available policy documentation pertaining to a captive's portfolio of

insured risks, both biometric and industrial. This assessment will quickly single out those risks which might represent a fatal combination of frequency and severity for the captive's balance sheet, and which are often excluded from most policy terms and conditions, such as catastrophic risks. These specialised risks, therefore, would require an adequate excess of loss programme to mitigate their devastating financial effects in the event of a claim.

A further and equally essential step is to make coordinated and quantified efforts in order to diversify the captive's overall risk profile, in order to reduce the volatility of the captive's financial experience.

**Understanding employee benefit risk**

The increased popularity of global fronting programmes has produced an accelerated convergence of a property and casualty-oriented alternative risk methodology with a vastly different benefit culture. This has caused a gradual cultural shift in the long-standing relationship between employee benefits specialists at corporate level.

On the one hand, employee benefits network representatives had to quickly acquire risk management, finance and accounting competencies in order to entertain a higher level dialogue with their counterparts among their clients and advisors. On the other, risk managers, captive owners and captive market advisors had to gradually become sensitive to the peculiarities of managing employee benefits and, more generally, biometric risks.

ERM doctrine teaches us that any risk, and specifically insured risks, can be described as a combination of three parameters: frequency, severity and impact on business. While the first two are eminently quantitative parameters, the latter may be classed as a qualitative parameter that determines measurable financial effects: for example, an instance of reputational risk, a qualitative event, can have a dramatic impact on a business's financials.

In this view, the typical blend of employee benefits biometric risks reinsured by a captive tends to be characterised by varying degrees of expected frequency and severity, but in general with a more predictable medium and long-term trend when compared with industrial risks.

Furthermore, employee benefit risks are normally funded on a yearly renewable term basis, and their period of coverage ranges from the calendar year (life, health, accident) to an employee's normal retirement age (long-term disability) with shorter tails and an overall lower severity and impact on the business.

This partially explains the commonplace statement that, unlike industrial risks, biometric risks are more likely to affect a captive's profit and loss statement rather than its balance sheet, yet the resulting overall risk diversification is one of the key drivers in optimising a captive's risk strategy.

The inclusion of employee benefits risks in a captive does not only mitigate the overall volatility and functions as a balancing act, but may also be useful in substantiating the captive's favourable tax treatment.

Employee benefit schemes in a captive may in fact constitute "unrelated third-party business" for tax purposes, following the rule of thumb that, in many local jurisdictions, a captive has sufficient unrelated third party risk to be regarded as a bona fide insurer if the captive obtains at least 30% of its insurance business from third-party sources.

**Managing employee benefit risk**

We have already introduced the function of global networks whose business models are centered around a form or proportional rein-

insurance as the technical aggregating vehicle to facilitate the implementation of captive programmes.

However, the role of a global network which aims to act in synchronicity with the strategic aims of a captive extends far beyond that of a highly technicised ‘pass through’.

One critical aspect of managing employee benefit risks is the selection and appropriate pricing of the insurable risk itself. This practice, which lies at the very foundation of insurance, is known as risk underwriting.

Global networks play a vital role in working side by side with captives in underwriting employee benefit risk. A properly structured, effective underwriting strategy is the prime factor in ensuring short- and long-term underwriting profits for a captive, and in practical terms it can be deployed as follows:

- **Local underwriting:** a local insurance carrier affiliated to a global network can provide the deepest possible insight and underwriting expertise about the local market, underlying pricing assumptions, and any non-technical local market drivers which might affect its pricing strategy, such as competitors’ and brokers’ pressure. The local carrier has also privileged access to the contract’s claims experience and other technical data utilised when pricing the risk.
- **Central underwriting:** one of the key differentiating factors for a global network is represented by the strength and capabilities of its central underwriting function. A global network typically enjoys wider access to claim experience data than any of its locally affiliated carriers, and it can utilise this data to further increase the reliability of past claims experience and, overall, insurance statistics when pricing the risk. Furthermore, the broader “international” perspective of the global network when assessing the risk often determines a risk appetite which can be far greater than that of the local carrier.
- **Captive underwriting:** we have already observed that many captives’ core expertise historically focused on industrial risks, and this has gradually expanded to biometric risks. By definition a captive is the ultimate risk bearer in a co-ordinated programme, it “owns” the risk fronted by the network, and therefore it is responsible for setting the overall underwriting strategy and risk tolerance of the programme. Nowadays the most successfully managed captive

fronting programmes which include employee benefits, have incorporated many underwriting practices mutated from commercial insurance networks, and often work in conjunction with said networks in order to establish a best practice in underwriting employee benefits.

Once a co-ordinated underwriting strategy is implemented, as a convergence of underwriting capabilities at local, network and captive level, the captive as the ultimate risk bearer must establish its overall risk appetite, which in turn will determine its underwriting strategy.

This strategy leads to three desired outcomes in terms of risk appetites:

- **The employee benefits risk is underwritten to run on a break-even basis.** In this outcome, the captive aims to optimise its parent’s local subsidiaries’ local expenditure, relying on other sources of income to support itself as an economic entity (UW margins from other business lines, financial return from invested capitals).
- **The employee benefits risk is underwritten to run on a projected profit basis.** In this outcome, the captive’s profitability target is aligned to that of the primary insurer, by pricing risk in order to cover its inherent cost of mortality/morbidity, plus a preset explicit or implicit profit margin.
- **The employee benefit risk is underwritten to run on a managed loss basis.** In this outcome, the captive aims to minimise its parent’s local subsidiaries’ expenditure, whilst at the same time subsidising the captive’s own overall bottom line through the profits arising from other unrelated business lines, and

bility theory: premium setting in the context of an insurance policy is determined by a linear combination, or ‘mixture’ of a ‘manual’ or ‘tariff’ premium rate and the rate arising from observing the policy’s past and current claims experience.

The fact that the final price of the risk can effectively be expressed by a mixture of two rates owes to the mathematical properties of the claims distribution curve, introduced first by the great mathematician Poisson.

### Shaping employee benefits risk

Broadly speaking, the range of practical tools introduced by global networks in order to help captive operators shape the risk they must manage can be classified in three categories:

- Risk mitigation & advisory services
- ‘Retro’ risk protections
- Reporting tools

Risk mitigation services feature first and foremost as an effective claims management framework, which must be business-specific and operate seamlessly and transparently with the captive itself.

A properly structured claims management framework must include a timely validation of all loss reserves transferred to a captive, be them on a funds withheld basis, i.e. when the assets pertaining to the ceded liabilities are retained by the fronting network on behalf of the captive, or on a funds transferred basis, i.e. when such assets are set aside by the captive itself.

These loss reserves are typically represented by the so-called outstanding claims reserves (OCRs), or reserves for open claims currently in payment, and reserves for claims incurred but not reported (IBNRs). While the prevalent local methodology for OCRs is largely statutory, in the sense that there is very little to no room for discretionary adjustments

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possibly reducing its fiscal exposure.

In any event, the complex interactions between local, central and captive underwriting capabilities all apply some forms of risk selection tactics, which derives from Bayes’ original studies as the groundwork for credi-

to such reserves, the privileged access that a network has to local regulatory sources and data to validate and recalculate these reserves must be put at the captive’s disposal as an essential tool to monitor the development of OCRs over time and their adequacy to repre-

sent a reliable best estimate of the net present value of future losses.

IBNRs on the contrary tend to be company-specific, albeit within generally accepted market guidelines, and herein the network's role is to establish an actuarially correct methodology for calculating IBNRs and share this methodology with a captive owner.

Their primary and most relevant application is in managing health risks, where claim completion patterns can greatly vary according to different geographic areas, medical benefit classes and diagnostic category.

We have already illustrated how captive programmes are based on the mechanism of pure fronting, or near-100% transfer of risk to a captive. We also introduced the concept and implication of risk appetite and risk tolerance, and how these are related to the amount of risk, in terms of premium volume and total exposure, being accepted by a captive. Evidently, not all captives share the same risk appetite and their overall risk acceptance position is affected by their exposure in unrelated risk classes and overall premium volume. This disparity in captive's business magnitude has prompted certain networks to offer to selected captives their so-called insurance capacity, i.e. their ability to operate not only as a fronting vehicle but also as a captive's reinsurer, thus protecting both the captive's profit & loss statement and balance sheet from unexpected spikes in claims experience.

These reinsurance protection tools, or 'retro' protections, are provided in the form of

a combination of proportional (typically, surplus or pooling point) and non-proportional (usually stop loss and catastrophic excess of loss) reinsurance.

The numeric example in Figure 3 illustrates the effect of a comprehensive retro protection programme on a number of claims being reinsured by a captive: the two scenarios, based on the same claim distribution assumption but on different premium volumes, show how these protections effectively mitigate the captive's overall loss in the first scenario, and contribute to increasing its overall technical profit in the second scenario.

Typically, most networks document their fronting services through a proprietary reporting suite that comprises four quarterly accounting statements as a minimum. These reporting tools are broadly similar in scope and may differ from each other in terms of granularity of reported data (for example, disclosure of different types of loss reserves) and nomenclature (the way networks label their costs and charges can be singularly cryptic at times).

In essence however, all reporting formats currently available today are an approximation of a typical profit & loss statement. This has been deemed to be sufficient so far, but as accounting standards have been developed worldwide, more and more captives found themselves in the position of having to align their accounting procedures and statutory reports irrespective of their jurisdiction to such standards, and specifically IAS/IFRS.

This is a key requirement to ensure an adequate level of accounting governance for the captive, and it is becoming one of the key tenets in implementing Pillars II and III of the upcoming Solvency II regulations, which impose certain provisions in terms of reporting, risk management and disclosure.


One of the future short-term challenges for the network which chooses to invest in a long term partnership with the captives it serves is therefore to be able to develop a reporting suite which is fully IFRS/IAS-compliant. In this way, the transition from quarterly captive reports produced by the network to quarterly statutory reports accounted for by the captive (and governed by the captive domicile's insurance regulator) will be seamless.

An accounting statement, however accurate and compliant with internationally accepted standards, is not comprehensive and detailed enough to capture other significant attributes of the risks therein summarised.

This is the driver behind some networks' efforts at developing additional reporting tools, which do not have an accounting purpose, but rather are designed to better describe the specific characteristics of certain lines of risk, to provide captives with a wealth of data on the risks themselves, as well as valuable insight on how to make sense of these data.

In particular, health and medical expenses benefits are one of the most sensitive lines of risk to data quality and comprehensiveness: a reliable quarterly report which includes a breakdown of paid and incurred claims, by benefit class and diagnostic category is therefore an invaluable tool for risk managers to truly be able to shape the health risk they manage through their captive.

For example, an unusually high trendline in respiratory illnesses might indicate poor working conditions in a given location, while an abnormal frequency in recommended c-sections might underline an instance of policy overutilisation by certain medical practitioners.

Of course, the larger the amount of data provided, the most important it becomes to find appropriate reading keys for such data, in order to avoid the corporate plague known as paralysis through analysis. At the same time, producing these reports and ensuring their reliability means networks must allocate considerable and sustaining investments in order to develop an efficient IT and administrative infrastructure, and this must be reflected in setting an appropriate price for their additional services. 

**FIGURE 3 | RETRO PROTECTION**

	No protection	Step 1: Pooling point	Step 2: CatXL	Step 3: Stop loss
Premium	1,600,000	1,600,000	1,600,000	1,600,000
Claim 1	250,000	250,000	250,000	250,000
Claim 2	550,000	500,000	500,000	500,000
Claim 3	280,000	280,000	330,000	330,000
Claim 4	150,000	150,000		
Claim 5	300,000	300,000		
Claim 6	800,000	500,000	500,000	500,000
Claim 7	800,000	500,000	500,000	500,000
Claim 8	200,000	200,000	200,000	200,000
Claim 9	1,200,000	500,000	500,000	500,000
Balance	2,930,000	1,580,000	680,000	160,000

	No Protection	Step 1: Pooling point	Step 2: CatXL	Step 3: Stop loss
Premium	5,000,000	5,000,000	5,000,000	5,000,000
Claim 1	250,000	250,000	250,000	250,000
Claim 2	500,000	500,000	500,000	500,000
Claim 3	280,000	280,000	330,000	330,000
Claim 4	150,000	150,000		
Claim 5	300,000	300,000		
Claim 6	800,000	500,000	500,000	500,000
Claim 7	800,000	500,000	500,000	500,000
Claim 8	200,000	200,000	200,000	200,000
Claim 9	1,200,000	500,000	500,000	500,000
Balance	470,000	1,820,000	2,720,000	2,720,000